

Table 3.7.6.0(f₂). Design Mechanical and Physical Properties of 7075 Aluminum Alloy Hand Forging—Continued

Specification	AMS-A-22771 and AMS-QQ-A-367					AMS 4147, AMS-A-22771, and AMS-QQ-A-367					
Form	Hand forging										
Temper	T73 ^a					T7352					
Thickness, in.	≤2.000	2.001-3.000	3.001-4.000	4.001-5.000	5.001-6.000	≤2.000	2.001-3.000	3.001-4.000	4.001-5.000	5.001-6.000	
Basis	S	S	S	S	S	S	S	A	B	S	S
Mechanical Properties:											
F_u , ksi:											
L	66	66	64	62	61	66	66	64	67	62	61
LT	64	64	63	61	59	64	64	63	66	61	59
ST	...	61	60	58	57	...	61	60	63	58	57
F_y , ksi:											
L	56	56	55	53	51	54	54	53	55	51	49
LT	54	54	53	51	50	52	52	50	53	48	46
ST	...	52	51	50	49	...	50	48	51	46	44
F_{cy} , ksi:											
L	56	56	...	...	...	55	55	52	55	49	46
LT	52	52	...	...	...	55	55	52	55	49	46
ST	...	...	...	...	...	55	55	53	56	51	49
F_{su} , ksi:											
L	39	39	...	...	...	39	39	38	40	37	36
LT	...	...	...	...	...	36	36	37	38	36	35
ST	...	...	...	...	...	38	38	37	39	36	35
F_{bru}^b , ksi:											
(e/D = 1.5)	...	...	...	...	...	86	88	89	93	86	84
(e/D = 2.0)	...	...	...	...	...	120	120	118	123	114	110
F_{brv}^b , ksi:											
(e/D = 1.5)	...	...	...	...	...	71	73	73	77	71	68
(e/D = 2.0)	...	...	...	...	...	90	90	87	92	83	80
e , percent (S-basis):											
L	7	7	7	7	6	7	7	7	...	7	6
LT	4	4	3	3	3	4	4	3	...	3	3
ST	...	3	2	2	2	...	3	2	...	2	2
E , 10 ³ ksi	10.2										
E_c , 10 ³ ksi	10.4										
G , 10 ³ ksi	3.8										
μ	0.33										
Physical Properties:											
ω , lb/in. ³	0.101										
C , K , and α	See Figure 3.7.6.0										

a When hand forgings are machined before heat treatment, the section thickness at time of heat treatment shall determine the minimum mechanical properties as long as the original (as-forged) thickness does not exceed the maximum thickness for the alloy as shown in the table. The maximum cross-sectional area of hand forgings is 256 sq. in.

b Bearing values are “dry pin” values per Section 1.4.7.1.